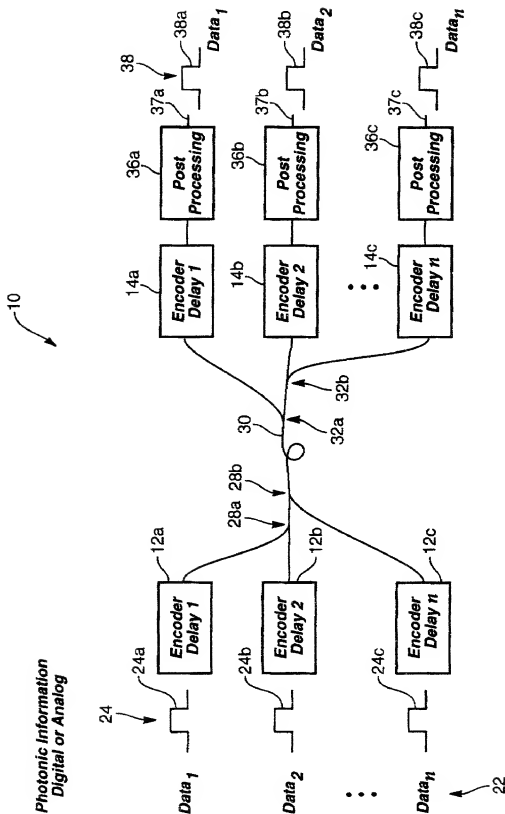
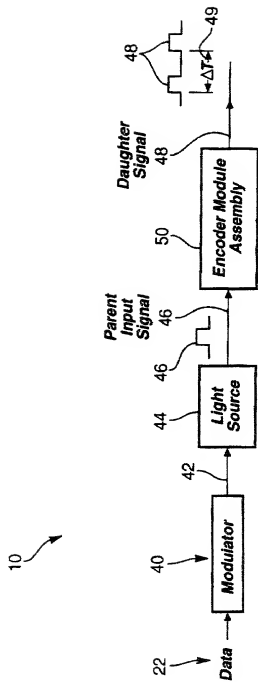
**FIG. 1**

2807.2.4.10

**Fig. 2**

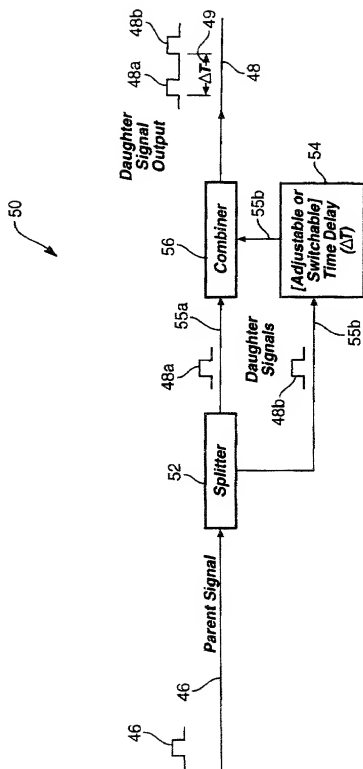
2807.2.4.10



Differential Delay Multiplexer Sender/Encoder

Fig. 3

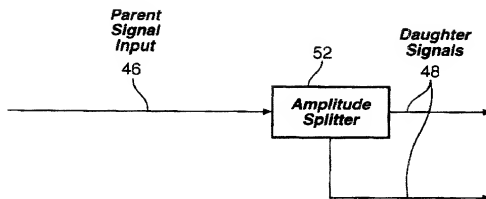
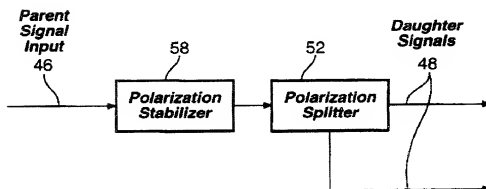
2807 2.4.10



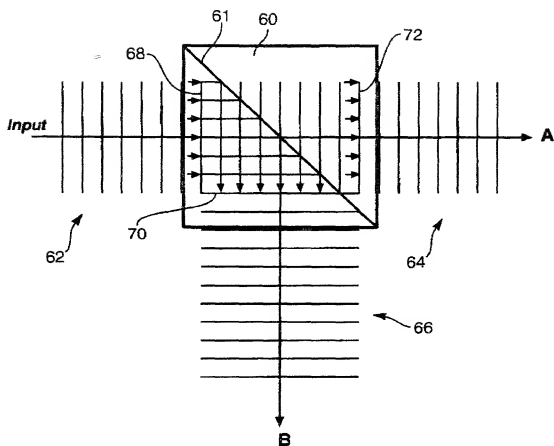
Differential Delay Multiplexer (DDM) Sender/Encoder

Fig. 4

2807.2.4.

**FIG. 5****Splitting Criteria****FIG. 6**

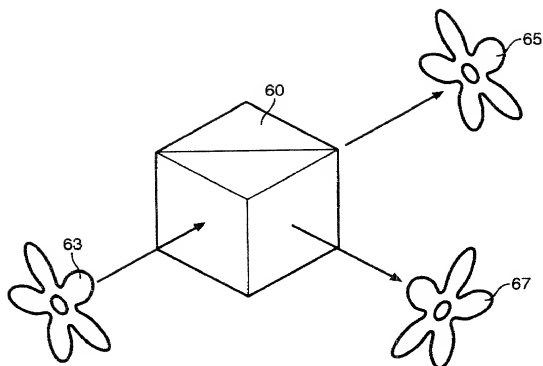
2807.2.4.



Amplitude or Polarization Splitter

FIG. 7

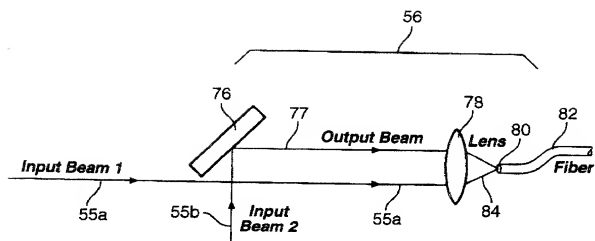
2807.2.4.



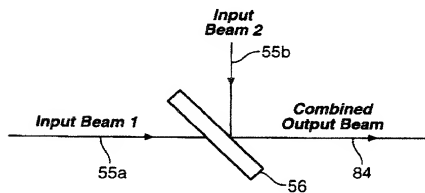
**Image Signals Which
Maintain Spatial Information**

FIG. 7A

2807.2.4.

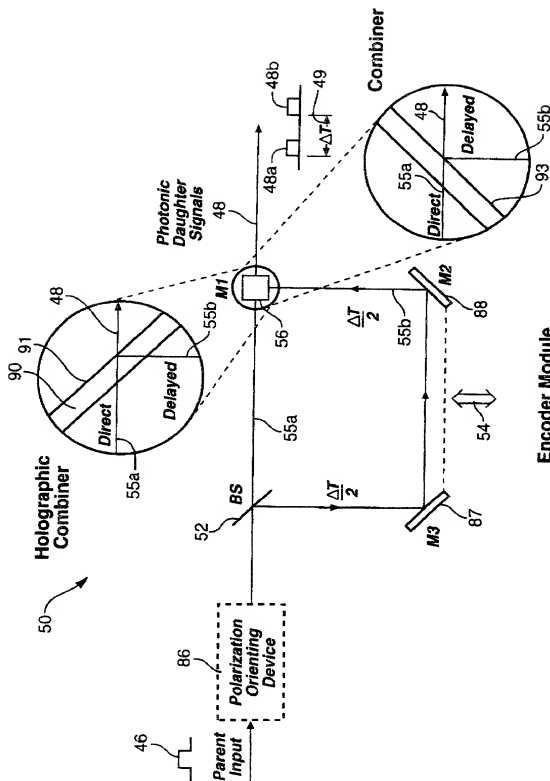


Beam Combiner
FIG. 8



Amplitude or Polarization Combiner

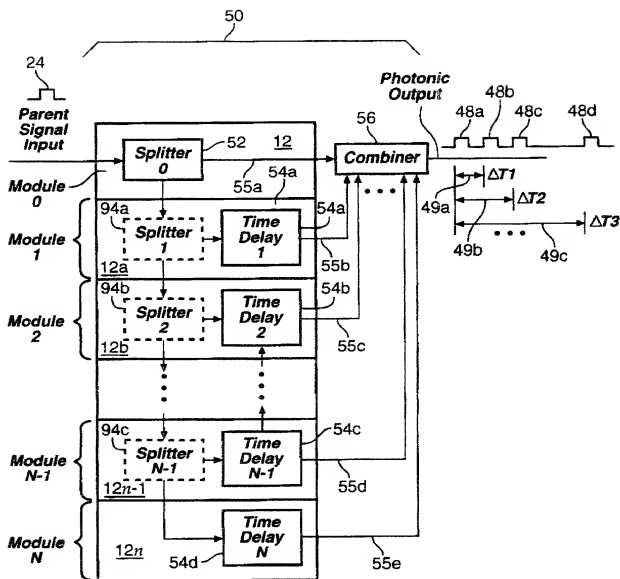
FIG. 9



Encoder Module

Fig. 10

2807.2.4.



Composite Encoder
Module Assembly

FIG. 11

2807.2.4.

11/50

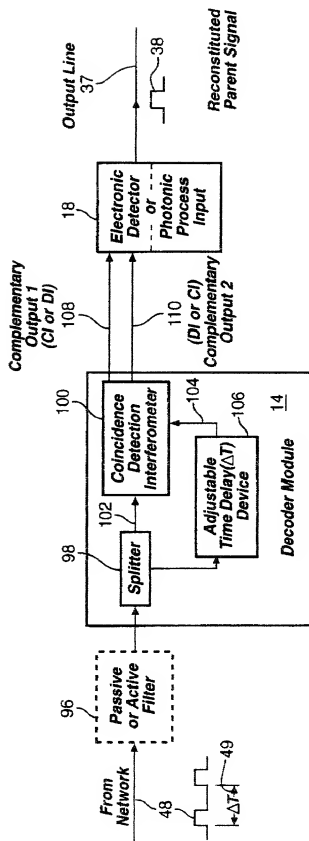


Fig. 12

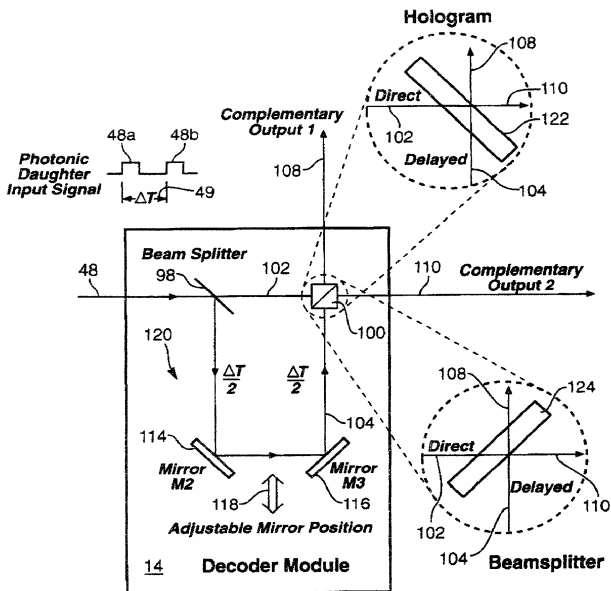


FIG. 13

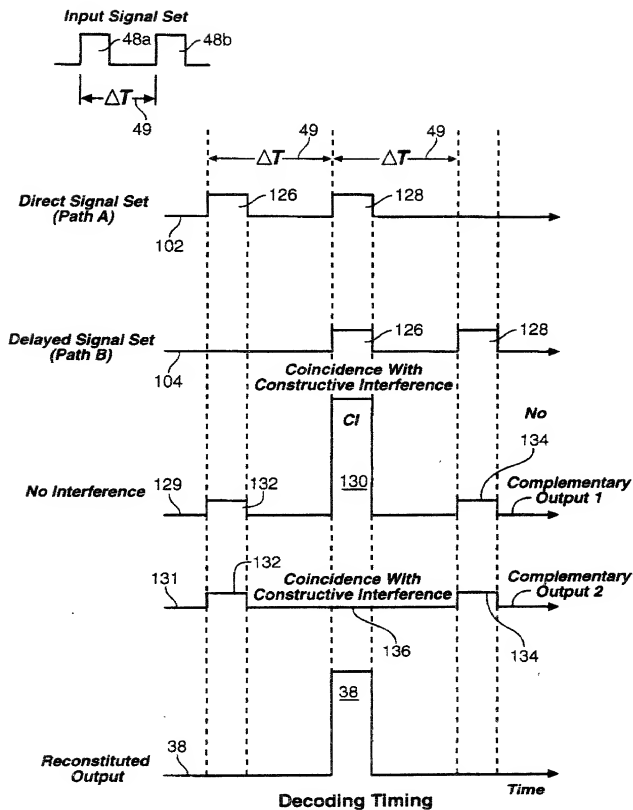


FIG. 14

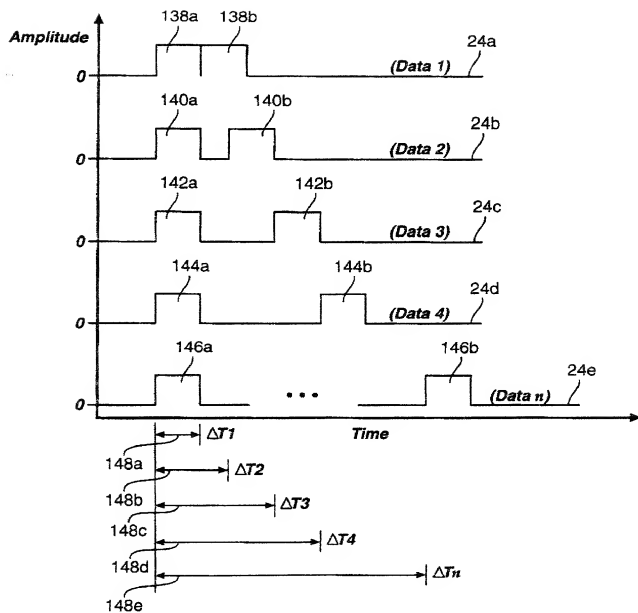


Fig. 15

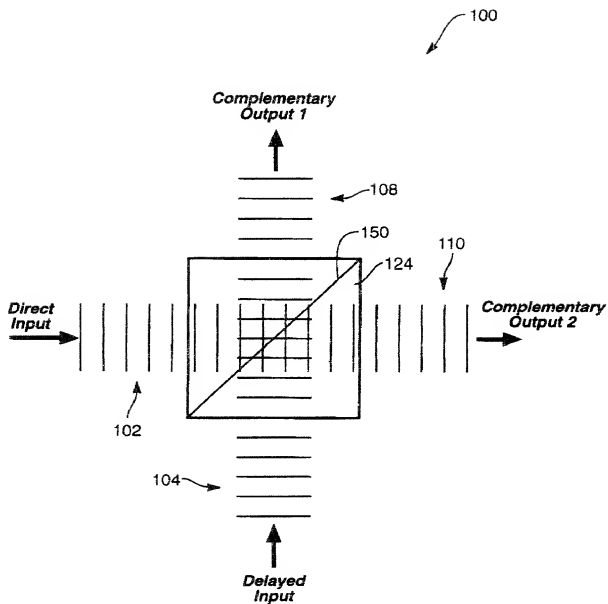


Fig. 16

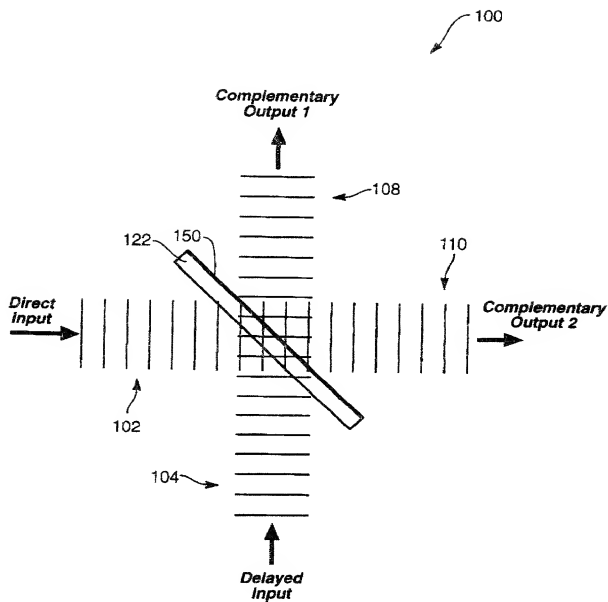
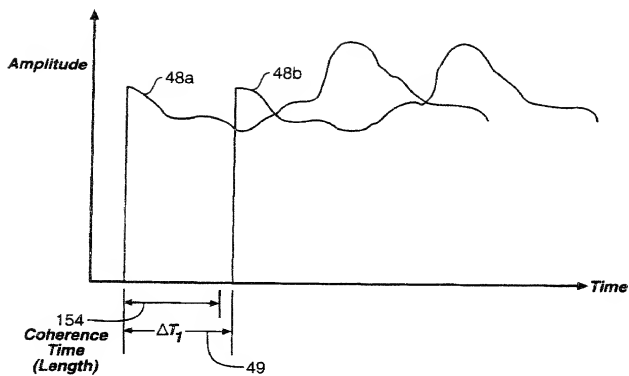


Fig. 17

**Fig. 18**

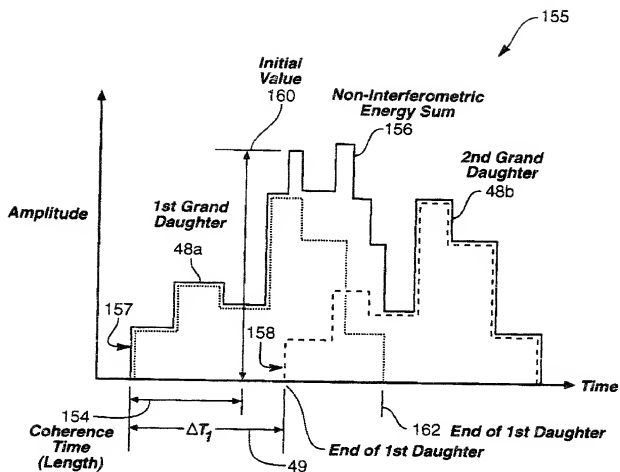
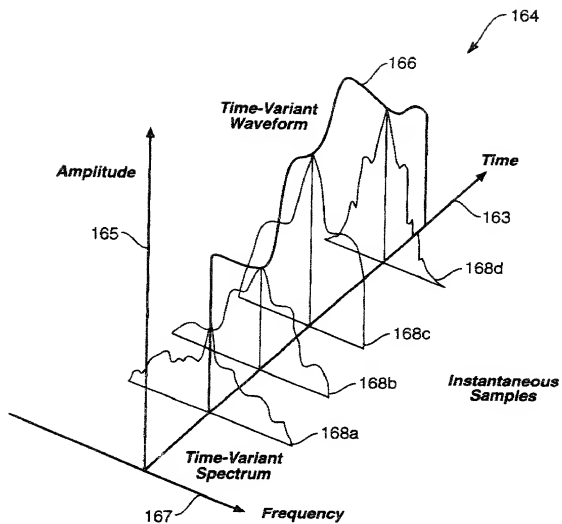


Fig. 19

**Fig. 20**

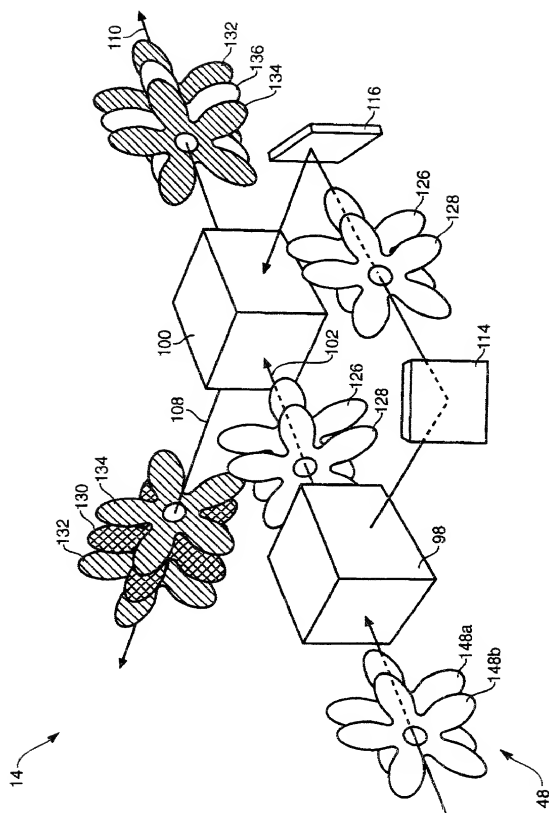
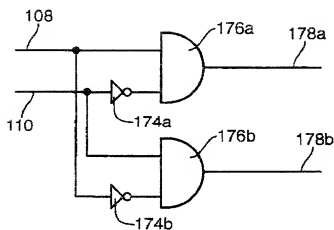


Fig. 21

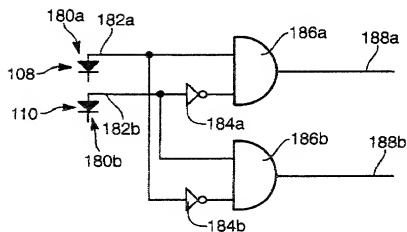
170



Photonic Processor

Fig. 22

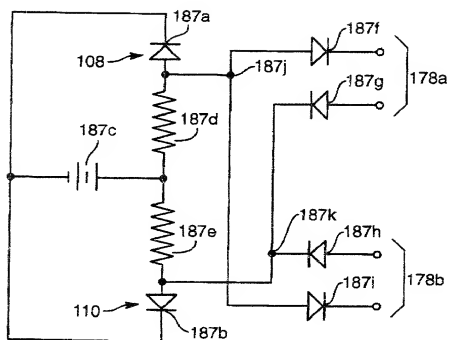
170



Electronic Processor

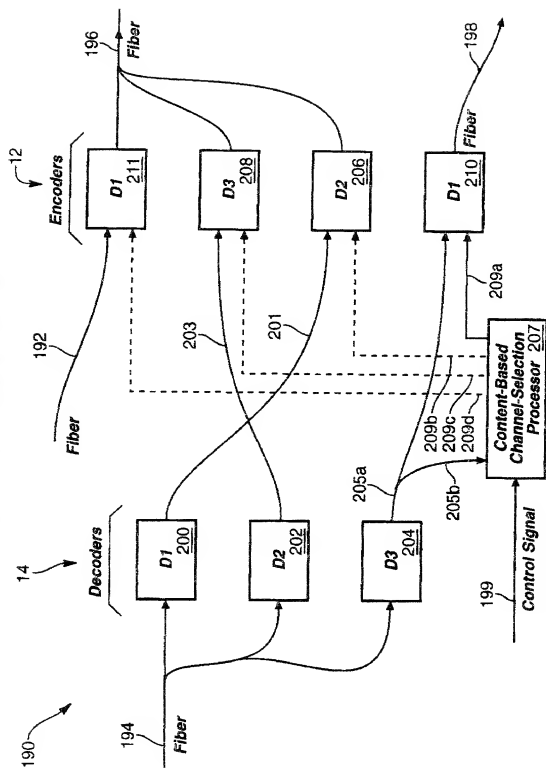
Fig. 23A

170



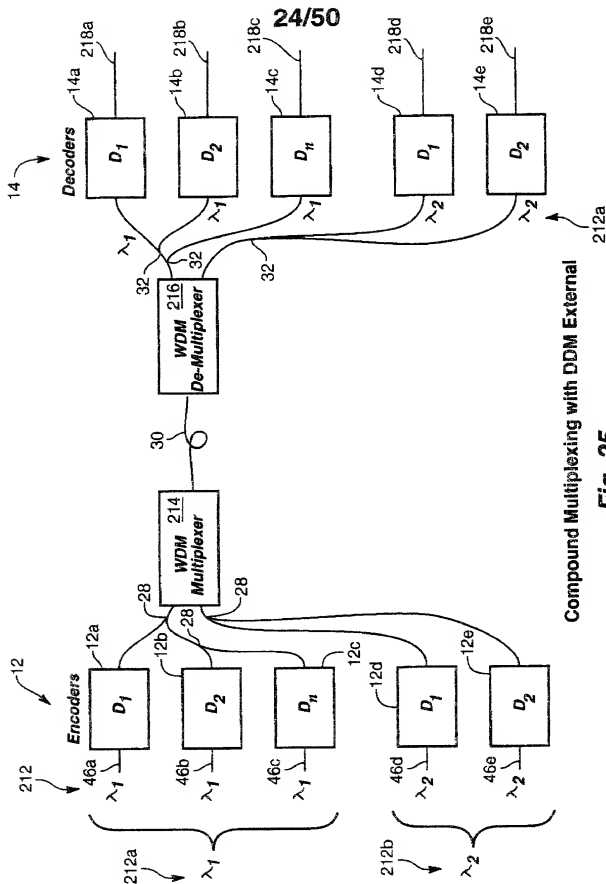
Electronic Processor

Fig. 23B



Drop/Rearrange/Add Unbuilding/Rebuilding

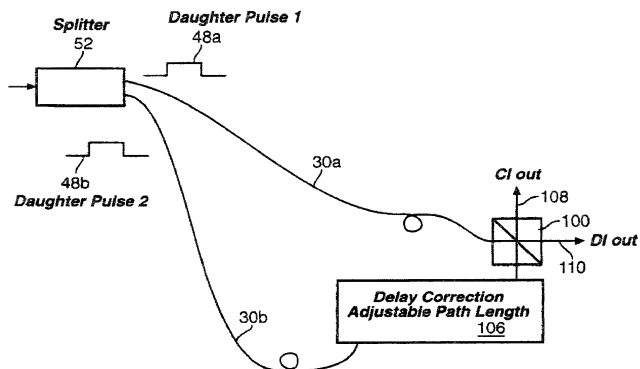
Fig. 24



Compound Multiplexing with DDM External

Fig. 25





Multiple Delay Path

**Integrated Delay and
Delay Correction**

FIG. 27

Photonic NRZ Interface

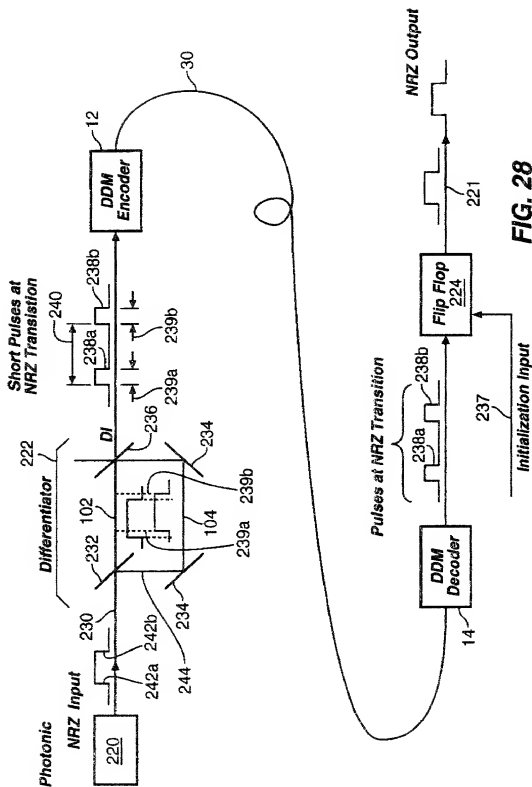


FIG. 28

28/50

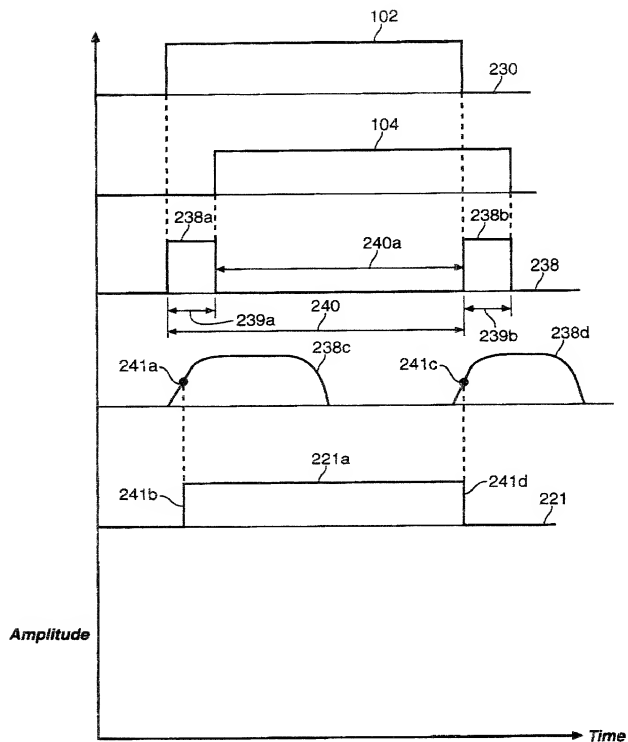
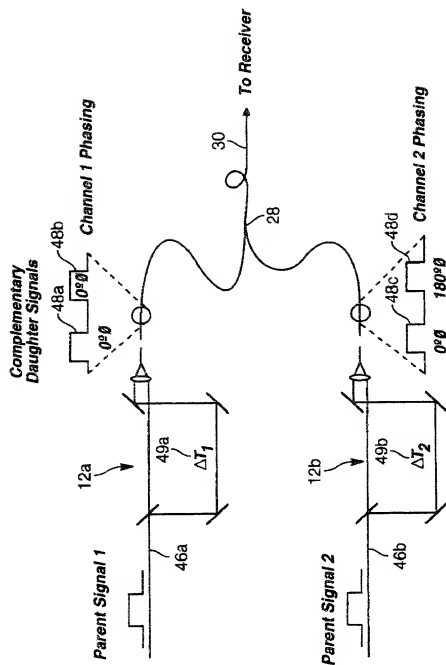


FIG. 29



Phase Sequenced Dual Channel Encoder

FIG. 30

Phase Sequenced Dual Channel Decoder

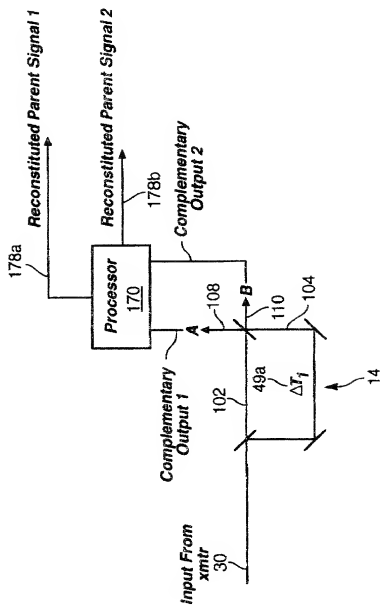


FIG. 31

Phase Sequence Timing

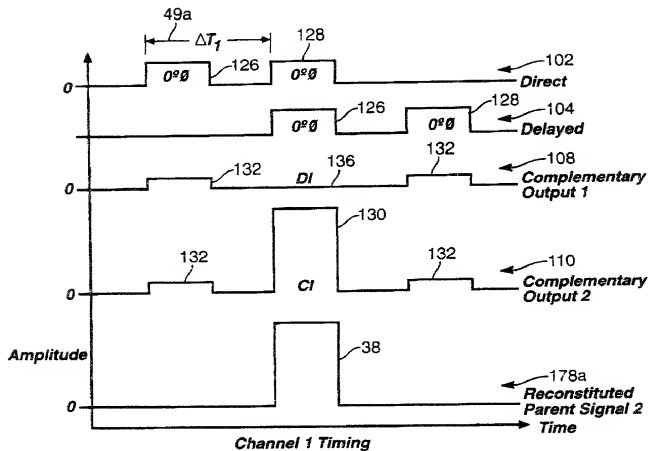


FIG. 32

Phase Sequence Timing

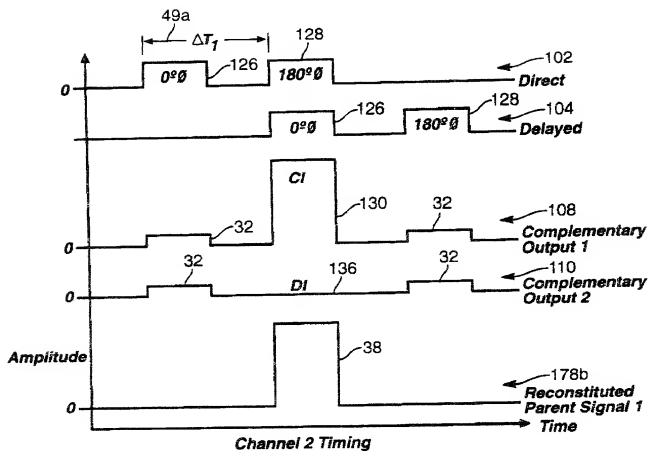
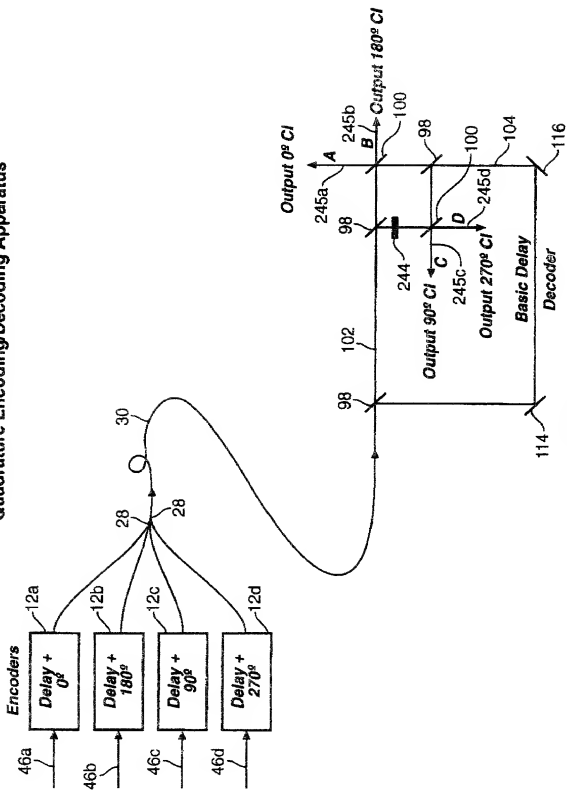


FIG. 33

Quadrature Encoding/Decoding Apparatus


FIG. 34

	<i>Phase of Direct Signal</i>	<i>Phase of Delayed Signal</i>	<i>Quadrature Outputs</i>			
			<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
46a → Channel 1	0	0	<i>CI</i>	<i>DI</i>	<i>C = D</i>	
46b → Channel 2	0	180	<i>DI</i>	<i>CI</i>	<i>C = D</i>	
46c → Channel 3	0	90	<i>A = B</i>		<i>CI</i>	<i>DI</i>
46d → Channel 4	0	270	<i>A = B</i>		<i>DI</i>	<i>CI</i>

245a 245b 245c 245d

FIG. 35

Quadrature Wave Forms For One Channel

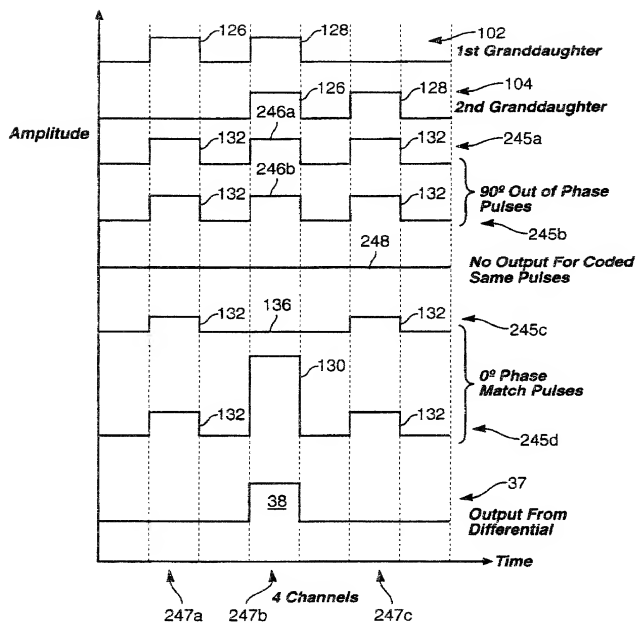


FIG. 36

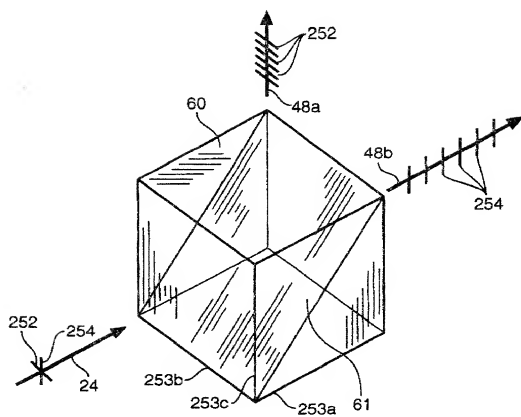


FIG. 37A

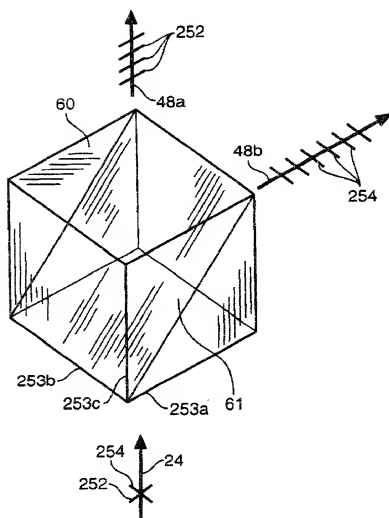
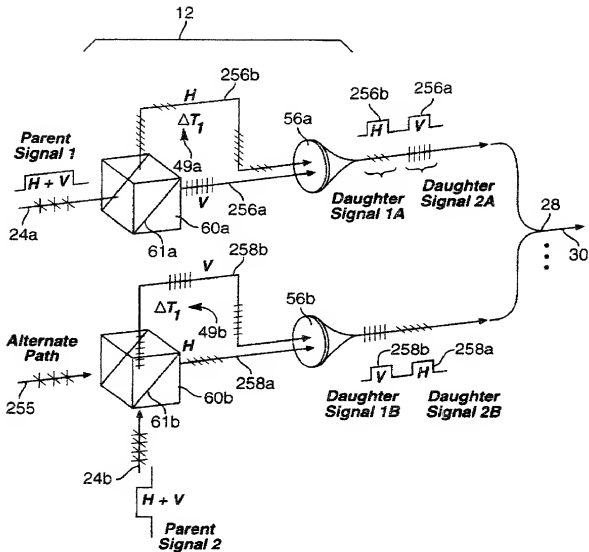
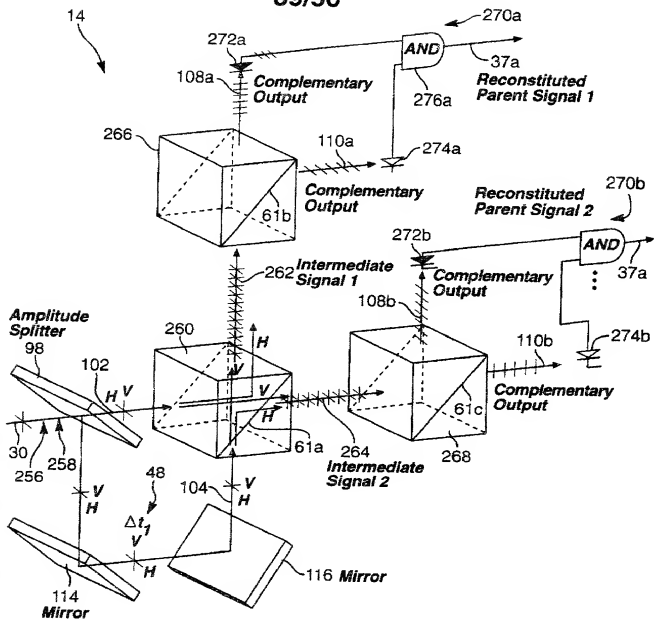


FIG. 37B



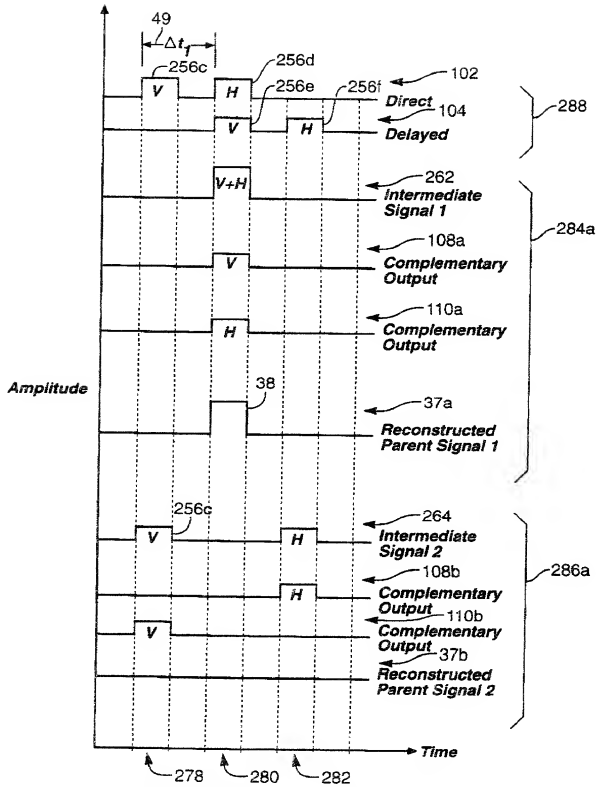
Double Encoder With Polarizations Sequenced to Differentiate 2 Channels Having the Same Time Delay Between Daughter Signals

FIG. 38



Double Decoder With Polarizations Sequenced to Differentiate 2 Channels Having the Same Time Delay Between Daughter Signals

FIG. 39



Polarization Sequenced Channel 1 Timing

FIG. 40

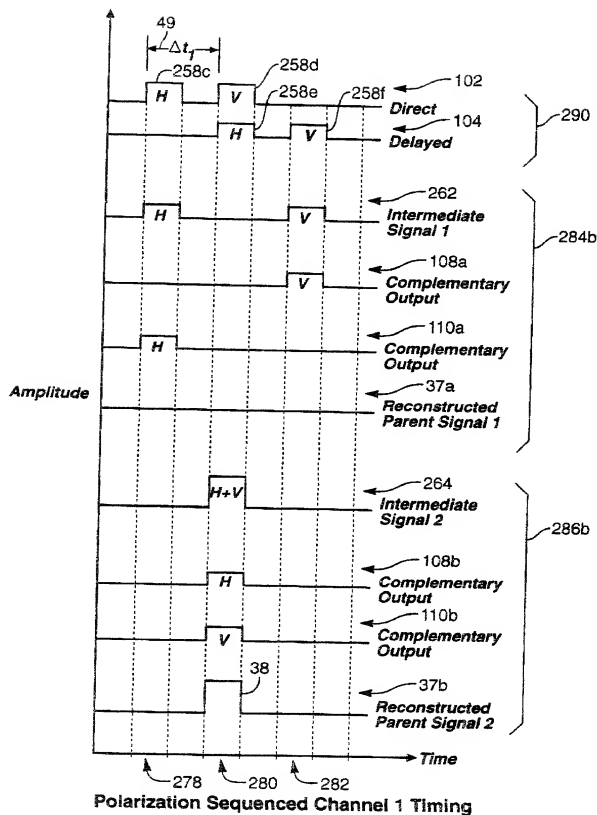


FIG. 41

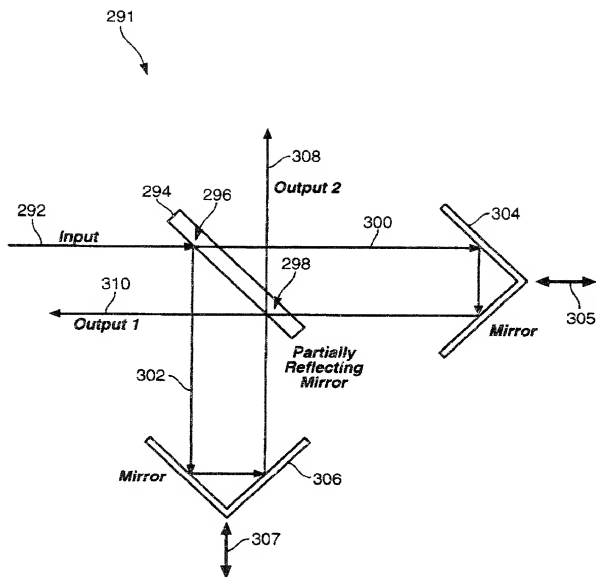


FIG. 42

43/50

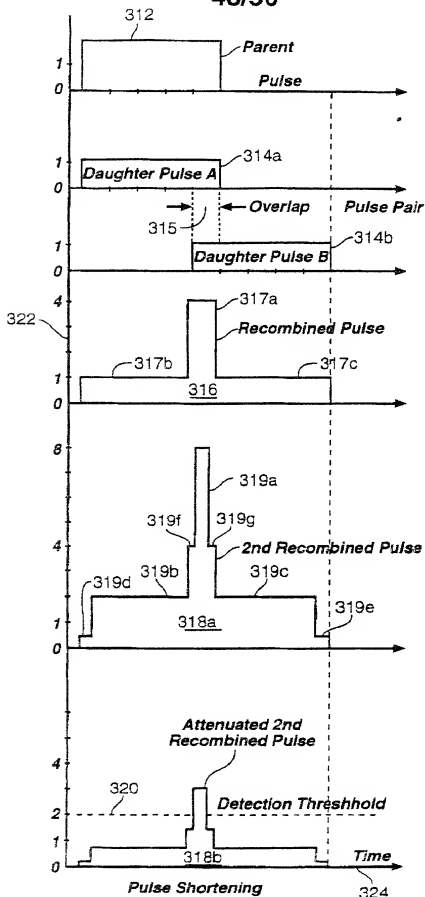
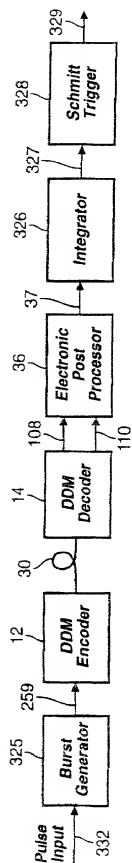


FIG. 43



44/50

FIG. 44

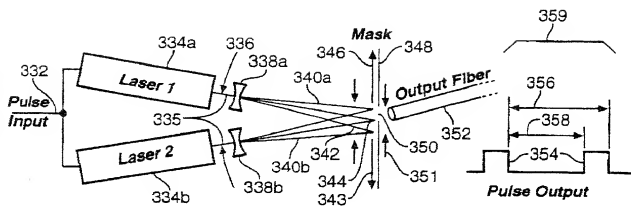
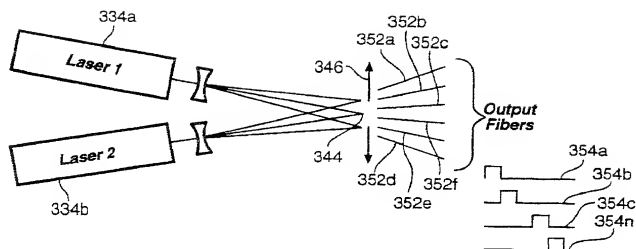


FIG. 45

**FIG. 46**

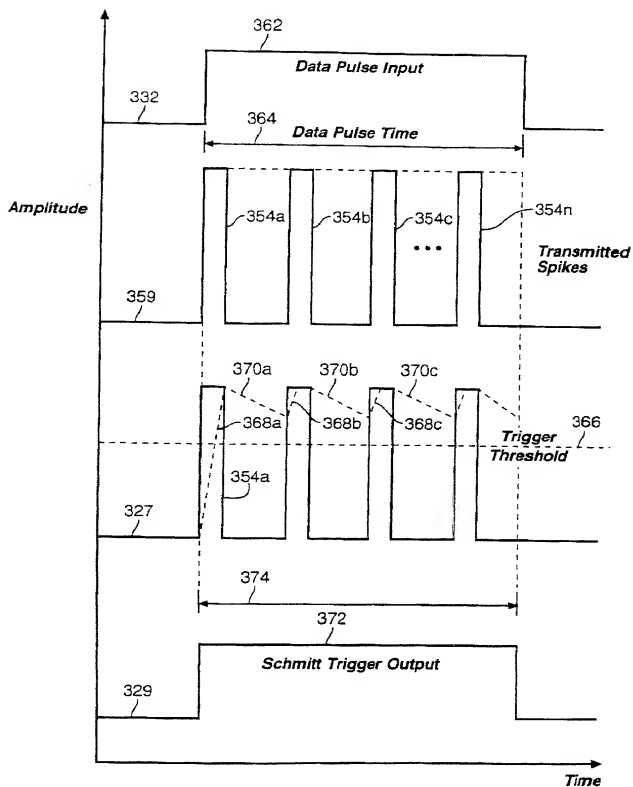


FIG. 47

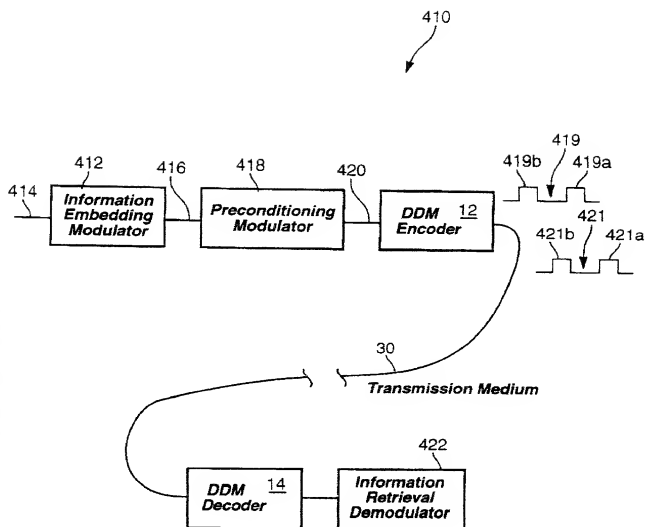


FIG. 48

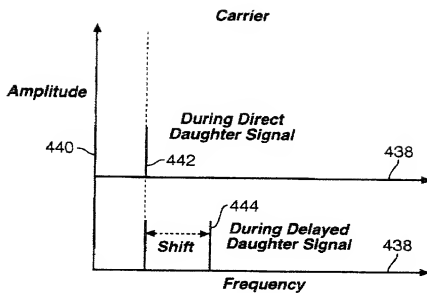


FIG. 50